

LII.—*Preliminary Notice of new Species of Hymenoptera, Diptera, and Forficulidæ collected in the Island of Rodriguez by the Naturalists accompanying the Transit-of-Venus Expedition.* By FREDERICK SMITH.

IN anticipation of a detailed account of the collections made in the Island of Rodriguez by Messrs. Gulliver and Slater, I hereby submit diagnoses of the new species of the orders examined by me.

Formicidæ.

Tapinoma pallipes.

Worker. Length $1\frac{1}{2}$ line. Head and thorax reddish brown, abdomen dark brown; eyes black; mandibles and antennæ pale testaceous. Thorax rounded anteriorly, slightly narrowed posteriorly, with the metathorax obliquely truncate; the legs, petiole, and squama pale testaceous, the latter rounded above. Abdomen smooth, shining, and impunctate.

(Coll. by Gulliver.)

Tapinoma fragile.

Worker. Length 1 line. Head brown, smooth, and shining, the eyes black; mandibles white and pellucid, antennæ also white. Thorax pale brown, the sides and metathorax darker brown; the prothorax rounded in front; the metathorax oblique and concave; the legs, petiole, and squama pale testaceous, nearly white. Abdomen brown, smooth, and shining, palest at the base.

Found under bark; very like the preceding species, but smaller; the legs and antennæ pellucid. (Coll. by Gulliver.)

Monomorium impressum.

Female. Length $1\frac{3}{4}$ line. Head and abdomen dark fusco-ferruginous. The clypeus, mandibles, and antennæ flavo-testaceous; ocelli distinct, with an impressed line in front of the anterior one extending to the insertion of the antennæ; the apex of the scape and the club of the flagellum slightly rufo-fuscous. Thorax narrower than the head and one third longer; the prothorax rounded in front, the sides nearly parallel, slightly narrowed towards the metathorax; the legs pale testaceous, the femora rufo-testaceous; the tarsi colourless and pellucid; the thorax testaceous, as well as the nodes of the petiole. Abdomen oblong-ovate, as long as the head and thorax.

Male. Length $1\frac{1}{4}$ line. Dark fusco-ferruginous; mandibles and antennæ rufo-testaceous; ocelli prominent, with a deeply impressed line in front of the anterior one. Thorax oblong, narrowed posteriorly; the wings colourless hyaline; legs white, with the femora slightly fuscous in the middle. Abdomen oblong-ovate, smooth, and shining.

Found under bark. (Coll. by Gulliver.)

Monomorium elongatum.

Female. Length 2 lines. Reddish brown; head oblong, slightly narrowed behind the eyes, truncate posteriorly; ocelli glassy, the anterior one placed in a deep fossulet; mandibles and antennæ pale rufo-testaceous. Thorax oblong, narrowed behind; the metathorax truncate; legs pale rufo-testaceous, the femora slightly fuscous. Abdomen oblong-ovate, smooth, and shining, with a thin scattered pubescence.

Worker. Length 1 line. Reddish brown, shining, with the mandibles, antennæ, and legs pale testaceous; the head oblong, the sides nearly parallel, truncate behind, with the angles rounded. Thorax strangulated a little beyond the middle; the metathorax without spines. Abdomen ovate, smooth, and shining.

(Coll. by Gulliver.)

Scoliidæ.

Scolia rufa, St.-Fargeau.

Male. Length $7\frac{1}{2}$ lines. Black, the pubescence fulvo-ferruginous; the face densely pubescent; the clypeus and mandibles yellow, the former with a large triangular black macula in the middle, the latter rufo-piceous at their apex and narrowly so on their lower margin; the head pubescent behind. Thorax pubescent, the metathorax densely so; wings fusco-hyaline, the nervures black; slightly iridescent; the anterior legs with the tips of the femora above, also the tibiæ and tarsi above, yellow; the tips of the joints of the tarsi black; the intermediate and posterior tibiæ yellow above, their tarsi entirely so, with the tips of the joints black; all the calcaria pale testaceous. Abdomen with broad yellow fasciæ, the fasciæ emarginate in the middle and at the sides; the apical segment black, smooth, shining, with a few strong punctures at the base, the rest of the abdomen with scattered shallow punctures; beneath, the segments have narrow yellow apical marginal fasciæ, and are fringed with fulvous pubescence.

(Coll. by Gulliver.)

Sphegidaë.*Pelopæus convexus.*

Male. Length 5-6 $\frac{1}{4}$ lines. Head and thorax blue; abdomen and legs deep blue. The face with silvery-white pubescence; a thin griseous pubescence on the cheeks. Thorax—the mesothorax evenly punctured and convex, with a central impressed longitudinal line, without any trace of longitudinal channels; rather strongly, but not very closely, punctured, on the disk a few transverse irregular carinæ; wings subhyaline, with their apical margins clouded; the thorax has a thin, sparing, griseous pubescence; the apex of the metathorax with bright silvery pubescence; the tibiæ have the calcaria black.

(Coll. by Slater.)

Ophionidaë.*Paniscus perforator.*

Female. Length 6 lines. Rufo-ferruginous; the face and scape of the antennæ in front yellow; the space between the ocelli black. Thorax—the sides, the sutures on the mesothorax, and the scutellum paler than the disk; wings hyaline and iridescent; the stigma and nervures rufous; the legs and abdomen rufous, the latter slightly fuscous at the apex.

(Coll. by Slater.)

This species is like *P. melanopus*, Brullé; but all its tarsi are rufous, as well as the nervures of the wings; in *P. melanopus* they are black. Brullé's species is from Mauritius.

Muscidaë.*Pollenia basalis.*

Length 4 lines. Dark blue, with shades of green on the disk of the thorax; the face and cheeks luteous, and clothed with short, dense, yellow pubescence; at the end of the facialia a black bristle on each side; antennæ in deep facial grooves, slightly yellow at the base, third joint long, arista longly plumose; palpi luteous, with black bristles; frons black and more than a quarter the width of the head; wings hyaline, with their base fuscous; the transverse vein at the end of the wing nearly rectangular below and much curved above, leaving the cell open; the lower transverse vein very oblique. Abdomen with a little short luteous pubescence at the apex and also beneath; alulæ dirty white.

(Coll. by Slater.)

Sarcophaga mutata.

Female. Length 5 lines. Black, thinly clothed with black hairs and bristles; the face and cheeks with a covering of bright silvery pile; the margins of the facial groove fringed anteriorly with short black bristles; eyes dark reddish brown; the base of the antennæ black, the third joint tawny and with a long plumose black bristle at the base; frons with a broad black stripe running from the antennæ to the vertex. Thorax tawny above and with three black longitudinal stripes; the lateral margins set with black curved bristles; legs black and with a number of black bristles; wings subhyaline, the veins black; the transverse vein at the end of the wing straight above, oblique and curved below; the lower transverse vein evenly waved; the alulæ white. Abdomen tessellated with black and silvery pile, covered with short black hairs, and having a few long black bristles at the apex; there are also four long curved black bristles on the hinder margin of the scutellum.

(Coll. by Gulliver.)

Sapromyza squalida.

Male. Length 2 lines. Pale brown; frons yellow, with a dark brown central line; two long bristles at the hind corner of the eye, and two between them and the antennæ; face pale yellow; peristoma with a row of small bristles. Antennæ yellowish, brown above, the second joint with long black bristles beneath, at the end; arista black, yellow at the base and plumose; the palpi yellow. Thorax with obscure pale (almost white) longitudinal stripes; the scutellum pale brown, its outer margin and a central longitudinal line pale yellow. Legs yellow; the tibiæ have all a preapical bristle; the anterior femora with scattered bristles, the intermediate pair with a row of bristles in front near the tip. Wings faintly yellowish, middle transverse veinlets darkened, and yellowish spots at the tip of the lower transverse veinlet and at the tips of the second and third veins, and also on those veins some distance from the tips, and on the second vein opposite where the first vein ends in the costa. Abdomen brownish yellow and thinly sprinkled with short black hairs.

(Coll. by Gulliver.)

Forficulidæ.*Forficula (Brachylabis) varicornis.*

Length $4\frac{1}{2}$ lines; forceps 1 line. Nigro-piceous, shining; the palpi, mouth, and legs pale testaceous, the prothorax rufo-

piceous; antennæ 15-jointed, joints twelfth and thirteenth white, five or six of the basal joints rufo-piceous, as are also the palpi; the prothorax oblong-quadrate, narrowly margined, and with a longitudinal impressed line not extending to the posterior margin; not winged; the abdomen smooth and shining; the basal half of the segments with fine shallow punctures; the apical segment with a deeply impressed longitudinal line, its posterior margin emarginate; the forceps very stout, triangular at the base, curved inwardly beyond the middle, acute at the apex, their inner margin crenulated.

(Coll. by Gulliver.)

This species has a close general resemblance to *F. maritima*.

LIII.—*Contributions to the Study of the chief Generic Types of the Palæozoic Corals.* By JAMES THOMSON, F.G.S., and H. ALLEYNE NICHOLSON, M.D., D.Sc., F.R.S.E., Professor of Natural History in the University of St. Andrews.

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[Plates XXI.—XXV.]

Genus CLISIOPHYLLUM.

Clisiophyllum, Dana (in parte), Explor. Exped. vol. viii. Zoophytes, p. 361, pl. xxvi. fig. 6 (cæt. exclus.), 1846.

Gen. char. Corallum simple, cono-cylindrical, or turbate. Epitheca complete, sometimes thin, sometimes thick, marked with constrictions and accretion-ridges. Calice of variable depth, its floor exhibiting a conical boss in the centre. The surface of the boss is marked with a system of spirally bent or sometimes straight lamellæ, which are attached to the inner margins of the primary septa by the intervention of a system of delicate dissepiments, and, on the other hand, pass upwards to a median columellar crest on the crown of the boss. Septa well developed, of two orders, the primary septa never extending further inwards than near to the outer margins of the central boss. Internal structure triareal. Central area ("interlamellar space") formed partly by a system of vertical, spirally twisted or straight lamellæ, and partly by a system of vesicular tabulæ, which intersect the former obliquely, and are directed upwards and inwards to join in the columellar line. Intermediate area ("interocular space") formed by an outward extension of the tabulæ in large nearly horizontal vesicles. External area ("interseptal space") formed